

REMARKS**Summary of the Office Action**

In the Office Action, claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as being anticipated by WO 00/65584. The Office Action provides U.S. Patent No. 6,512,735 to Takeda et al. (hereinafter "Takeda") as an allegedly being "the US patent equivalent as an English translation of such a document."

Moreover, the Office Action rejects claim 5 under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 1 and 3 and further in view of U.S. Patent No. 5,708,651 to Sugaya et al. (hereinafter "Sugaya").

Claims 2 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 1 and 3 and further in view of U.S. Patent No. 6,130,871 to Watabe (hereinafter "Watabe").

Claims 6-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 2, 3 and 4 and further in view of Sugaya.

Because the Office Action does not specifically set forth the actual document numbers of all of the applied references, Applicants respectfully submit, for clarification of the record, that they understand that the specific document numbers of the applied references are as set forth above. **Applicants respectfully request that the Examiner provide clarification in the next Office Communication in the event that Applicant's understanding is incorrect in any respect.**

Summary of the Response to the Office Action

Applicants have amended claim 1 to differently describe an embodiment of the invention. Claims 2, 4, 6 and 8 are canceled without prejudice or disclaimer. Accordingly, claims 1, 3, 5 and 7 remain pending for consideration.

The Rejections under 35 U.S.C. §§ 102(b) and 103(a)

Claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as being anticipated by WO 00/65584. The Office Action provides U.S. Patent No. 6,512,735 to Takeda et al. (hereinafter “Takeda”) as an allegedly being “the US patent equivalent as an English translation of such a document.” Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 1 and 3 and further in view of Sugaya. Claims 2 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 1 and 3 and further in view of Watabe. Claims 6-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 2, 3 and 4 and further in view of Sugaya. Claims 2, 4, 6 and 8 have been canceled without prejudice or disclaimer. Accordingly, the rejections of claims 2, 4, 6 and 8 have been rendered moot. Claim 1 has been amended to differently describe an embodiment of the invention. To the extent that any of these rejections might be deemed to still apply to the claims as newly-amended, they are respectfully traversed as follows.

With regard to independent claim 1 of the instant application, the Office Action alleges that Takeda teaches all of the limitations of this claim. In particular, the Office Action cites to col. 4, lines 60+ of Takeda as allegedly meeting the tapered angle limitation of claim 1. Moreover, the Office Action goes on to cite to col. 1, line 29 – col. 2, line 4 of Takeda as allegedly meeting “the wavelength, thickness and numerical aperture limitations of claim 1.”

Applicants have reviewed the pertinent portions of the disclosure of Takeda and provide the following comments. Applicants note that in col. 4, lines 60-61 of Takeda, the tapered angle is described as falling “within a range of approximately 40° to 80°.” In the paragraphs from col. 1, line 29 to col. 2, line 4 of Takeda, a few examples of the wavelength/numerical aperture combinations are described as: 650 nm and 0.6 (for 4.7 GB DVD), 400 nm and 0.85 (for 25 GB disc), and 413 nm. Applicants respectfully submit, however, that the film thickness of a light transmissive layer formed over the recording layer (as defined in claim 1 of the instant application) is not particularly discussed in the paragraphs relied upon by the Office Action.

Nevertheless, Applicants have opted to newly-amend independent claim 1 in order to differently describe an embodiment of the invention. In particular, independent claim 1 now recites an optical disc combination including a “taper angle of said pits is in a range of 80 degrees to 90 degrees.” Claim 2 originally recited that “the taper angle of said pits is 80 degrees or higher.” In light of the aforementioned amendment to claim 1, claim 2 has now been canceled without prejudice or disclaimer.

Claims 2 and 4 under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claims 1 and 3 (WO 00/65584) and further in view of Watabe. With regard to this rejection, the Office Action relies upon col. 6, lines 32 plus to support the assertion that Watabe teaches the “ability of varying the angle of taper for the pit.” The Office Action goes on to assert at page 3, section 8 that it “would have been obvious to modify the base system of the WO reference with the above teaching from the Watabe reference.” The Office Action’s asserted motivation is “to provide for a realistic pit and hence provide for a realizable pit structure.” This combination rejection is respectfully traversed for at least the following reasons.

Column 6, lines 32-39 of Watabe teach that in “a case where a pit is formed on the

optical disk, it is realistic to form a pit having the wall surface angle θ equal to or larger than approx. 30 degrees (not more than 90 degrees) and the pit depth pd of 90 nm or less in the above reproduction optical system when taking it into consideration that the amplitude of the difference signal becomes maximum at the optical depth of $\lambda/8$ and becomes minimum at the depth of $\lambda/4$. "

Applicants respectfully submit that the optical disk 10 shown in Fig.1 of Watabe has a recording surface 20. An objective lens 16 causes a light beam to be focused on the recording surface 20 of the optical disk 10. As described at col. 5, lines 49-59 of Watabe, the pit length in the signal of the longest of pit and space is set at $2.87 \mu\text{m}$ in an optical system (optical head 13) in which the light source is 685 nm and the numerical aperture of the objective lens 16 is 0.6.

Accordingly, Applicants respectfully submit that the optical system 13 of Watabe utilizes a light source having a wavelength of 685 nm that one skilled in the art would understand to be similar to the 650 nm wavelength utilized for the 4.7 GB DVD disclosed in Takeda. This technical understanding is consistent with the fact that the disclosed numerical aperture of 0.6 of the objective lens 16 of Watabe is identical with the corresponding numerical aperture value of 0.6 for the 4.7 GB DVD disclosed in Takeda.

As a result, in light of the differences between the optical systems and the structures of the optical disks respectively described in Takeda and Watabe, Applicants respectfully submit that these references clearly lack any suggestion to combine the disclosed features to obtain the specific combination of features recited in newly-amended independent claim 1. For example, Applicants respectfully submit that the feature described at col. 6, lines 32 plus of Watabe cannot be combined to the optical disk of Takeda without the application of inadmissible hindsight based on the teachings of original claim 2 of the present application.

Furthermore, Applicants respectfully submit that Watabe describes that the wall surface angle θ is "equal to or larger than approx. 30 degrees (not more than 90 degrees) and the pit depth pd of 90 nm or less ... when taking it into consideration that the amplitude of the difference signal becomes maximum at the optical depth of $\lambda/8$ and becomes minimum at the depth of $\lambda/4$ (emphasis added)." However, Applicants respectfully submit that the considerations of Watabe, as described above, are different from the points considered in determining the taper angle according to embodiments of the present invention.

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that there is no motivation taught or suggested by the cited references to modify the teachings of Takeda with the teachings of Watabe to obtain the optical disc combination recited in independent claim 1, as newly-amended. Claim 1 recites a very specific combination of features of an optical disc including a particular film thickness (0.13 mm or less), light beam wavelength (400 nm to 415 nm), objective lens numerical aperture (0.75 to 0.86), and taper angle of pits (80 degrees to 90 degrees). While the Office Action alleges that one would be motivated to modify the teachings of Takeda with the teachings of Watabe "to provide for a realistic pit and hence provide for a realizable pit structure," Applicants respectfully submit that only through hindsight would one be motivated to modify Takeda to meet the specific limitations of independent claim 1. MPEP § 2141, under the heading "Basic Considerations Which Apply to Obviousness Rejections," points out that "the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention." [See also Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 229 USPQ 182 (Fed. Cir. 1986).] The Federal Circuit has clearly held that "the motivation to combine references cannot come from the invention itself." Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc., 21 F.3d 1068, 30 USPQ 2d 1377 (Fed. Cir. 1993).

Absent any teaching or suggestion *in the prior art* to adapt the teachings of Takeda to meet the claimed invention, the rejection under 35 U.S.C. § 103(a) is improper. Accordingly, Applicants respectfully submit that the rejections under 35 U.S.C. § 103(a) should be withdrawn.

As a result, Applicants respectfully submit that independent claim 1, as newly-amended, is in condition for allowance. Moreover, dependent claims 3, 5 and 7 are also in condition for allowance at least because of their dependence on independent claim 1. Moreover, the additionally applied reference to Sugaya fails to cure the deficiencies of Takeda and Watabe, as discussed above.

Conclusion

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of this application, withdrawal of all rejections, and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under

37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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